



SEQUENCE LISTING

<110> Finn, John
MacLachlan, Ian
Protiva Biotherapeutics Inc.

<120> Autogene Nucleic Acids Encoding a
Secretable RNA Polymerase

<130> 020801-000320US

<140> US 10/688,299
<141> 2003-10-16

<150> US 60/287,974
<151> 2001-04-30

<150> US 10/136,738
<151> 2002-04-30

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<220>
<223> HIV-Tat variant secretion domain

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    <220>
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    <220>
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    <400> 7
Tyr Ala Ala Ala Ala Arg Arg Arg Arg Arg Arg
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    <210> 8
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    <220>
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    <400> 8
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<210> 9
<211> 34
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<220>
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Val Glu

<210> 10
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<220>
<223> Antennapedia homeodomain third helix (residues
43-58), Penetratin-1 secretion domain

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Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
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<210> 11
<211> 16
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<220>
<223> Antennapedia homeodomain third helix (residues
53-43) secretion domain

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<210> 12

<400> 12
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<210> 13
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<212> PRT
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<220>
<223> Antennapedia homeodomain third helix (residues
43-58), Pro50 secretion domain

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<223> Antennapedia homeodomain third helix (residues
      43-58), 3-Pro secretion domain

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<210> 15
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<220>
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      43-58), R52M/M54R secretion domain

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      43-58), 7-Arg secretion domain

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 1             5             10             15

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<220>
<223> Kaposi's fibroblast growth factor (FGF) signal
      peptide sequence, truncated secretion domain

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<400> 18
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<210> 19
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<220>
 <223> amino terminal secretory signal of human IL-2
 secretion domain

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 1 5 10 15
 Val Thr Asn Ser
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<210> 20
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<220>
 <223> IL-2-4 cytokine signal sequence secretion domain

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 Val Thr Asn Ser
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<210> 21
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 <212> PRT
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<220>
 <223> herpes simplex virus (HSV) VP22 sequence secretion
 domain

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 Lys Asp Ser Lys Lys Asp Thr Ser Arg Arg Gly Ala Leu Gln Thr Arg
 35 40 45
 Ser Arg Gln Arg Gly Glu Val Arg Phe Val Gln Tyr Asp Glu Ser Asp
 50 55 60
 Tyr Ala Leu Tyr Gly Gly Ser Ser Ser Glu Asp Asp Glu His Pro Glu
 65 70 75 80
 Val Lys Arg Thr Arg Arg Lys Val Ser Gly Ala Val Leu Ser Gly Lys
 85 90 95
 Gly Lys Ala Arg Ala Lys Lys Lys Lys Ala Gly Ser Gly Gly Ala Gly
 100 105 110
 Arg Thr Lys Thr Thr Ala Lys Arg Ala Lys Arg Thr Gln Arg Val Ala
 115 120 125
 Thr Lys Ala Lys Ala Ala Lys Ala Ala Glu Thr Thr Arg Gly Arg Lys
 130 135 140

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Val	Ala	Gly	Phe	Asn	Lys	Arg	Val	Phe	Cys	Ala	Ala	Val	Gly	Arg	Leu
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Ala	Ala	Met	His	Ala	Arg	Met	Ala	Ala	Val	Gln	Leu	Trp	Asp	Met	Ser
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Arg	Lys	Arg	Thr	Asp	Glu	Asp	Leu	Asn	Glu	Leu	Leu	Gly	Ile	Thr	Thr
225				230					235						240
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			245					250						255	
Glu	Leu	Val	Asn	Lys	Asp	Val	Val	Gln	Asp	Val	Asp	Ala	Ala	Thr	Ala
			260					265					270		
Thr	Arg	Gly	Arg	Ser	Ala	Ala	Ser	Arg	Lys	Thr	Glu	Arg	Lys	Arg	Ala
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<210> 22
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 <212> DNA
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<220>
 <223> T7 RNA polymerase (RNAP) phagemid promoter
 sequence

<400> 22
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<210> 23
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> SP6 RNA polymerase (RNAP) phagemid promoter
 sequence

<400> 23
 atttagtgta cactatagaa gaa 23

<210> 24
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<220>
 <223> T3 RNA polymerase (RNAP) phagemid promoter
 sequence

<400> 24
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<210> 25
 <211> 23
 <212> DNA
 <213> Artificial Sequence

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<220>
<223> K11 RNA polymerase (RNAP) phagemid promoter
sequence

<400> 25
aattagggca cactataggg aga

<210> 26
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<212> PRT
<213> Artificial Sequence

<220>
<223> IL-4 signal sequence secretion domain

<400> 26
Met Gly Leu Thr Ser Gln Leu Leu Pro Pro Leu Phe Phe Leu Leu Ala
1          5          10          15
Cys Ala Gly Asn Phe Val His Gly
20

<210> 27
<211> 302
<212> PRT
<213> Artificial Sequence

<220>
<223> herpes simplex virus (HSV) VP22 secretion domain

<400> 27
Met Thr Ser Arg Arg Ser Val Lys Ser Gly Pro Arg Glu Val Pro Arg
1          5          10          15
Asp Glu Tyr Glu Asp Leu Tyr Tyr Thr Pro Ser Ser Gly Met Ala Ser
20          25          30
Pro Asp Ser Pro Pro Asp Thr Ser Arg Arg Gly Ala Leu Gln Thr Arg
35          40          45
Ser Arg Gln Arg Gly Glu Val Arg Phe Val Gln Tyr Asp Glu Ser Asp
50          55          60
Tyr Ala Leu Tyr Gly Gly Ser Ser Ser Glu Asp Asp Glu His Pro Glu
65          70          75          80
Val Pro Arg Thr Arg Arg Pro Val Ser Gly Ala Val Leu Ser Gly Pro
85          90          95
Gly Pro Ala Arg Ala Pro Pro Pro Pro Ala Gly Ser Gly Gly Ala Gly
100          105          110
Arg Thr Pro Thr Thr Ala Pro Arg Ala Pro Arg Thr Gln Arg Val Ala
115          120          125
Thr Lys Ala Pro Ala Ala Pro Ala Ala Glu Thr Thr Arg Gly Arg Lys
130          135          140
Ser Ala Gln Pro Glu Ser Ala Ala Leu Pro Asp Ala Pro Ala Ser Thr
145          150          155          160
Ala Pro Thr Arg Ser Lys Thr Pro Ala Gln Gly Leu Ala Arg Lys Leu
165          170          175
His Phe Ser Thr Ala Pro Pro Asn Pro Asp Ala Pro Trp Thr Pro Arg
180          185          190
Val Ala Gly Phe Asn Lys Arg Val Phe Cys Ala Ala Val Gly Arg Leu
195          200          205
Ala Ala Met His Ala Arg Met Ala Ala Val Gln Leu Trp Asp Met Ser
210          215          220
Arg Pro Arg Thr Asp Glu Asp Leu Asn Glu Leu Leu Gly Ile Thr Thr
225          230          235          240

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Ile	Arg	Val	Thr	Val	Cys	Glu	Gly	Lys	Asn	Leu	Leu	Gln	Arg	Ala	Asn
				245					250					255	
Glu	Leu	Val	Asn	Pro	Asp	Val	Val	Gln	Asp	Val	Asp	Ala	Ala	Thr	Ala
			260					265					270		
Thr	Arg	Gly	Arg	Ser	Ala	Ala	Ser	Arg	Pro	Thr	Glu	Arg	Pro	Arg	Ala
		275					280					285			
Pro	Ala	Arg	Ser	Ala	Ser	Arg	Pro	Arg	Arg	Pro	Val	Glu	Gly		
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<212> PRT

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<220>

<223> artificial secretion domain

<400> 28

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<210> 29

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> artificial secretion domain

<400> 29

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<210> 30

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> artificial secretion domain

<400> 30

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<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> artificial secretion domain

<400> 31

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<210> 32

<211> 10

<212> PRT

<213> Artificial Sequence


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    <220>
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1           5           10

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    <220>
    <223> artificial secretion domain

    <400> 33
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1           5           10

    <210> 34
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    <212> PRT
    <213> Artificial Sequence

    <220>
    <223> artificial secretion domain

    <400> 34
Arg Arg Arg Arg Arg Arg Arg Arg Gly Cys
1           5           10

    <210> 35
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    <220>
    <223> artificial secretion domain

    <400> 35
Arg Arg Arg Arg Arg Arg Arg Arg Arg Gly Cys
1           5           10

    <210> 36
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    <220>
    <223> artificial secretion domain

    <400> 36
Arg Arg Arg Arg Arg Arg Arg Arg Arg Gly Cys
1           5           10

    <210> 37
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    <212> PRT
    <213> Artificial Sequence

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    <220>
    <223> artificial secretion domain

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 1             5             10             15

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    <220>
    <223> artificial secretion domain

    <400> 38
Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Gly Cys
 1             5             10             15

    <210> 39
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    <212> PRT
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    <220>
    <223> artificial secretion domain

    <400> 39
Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Arg Gly
 1             5             10             15
Cys

    <210> 40
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    <220>
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    <400> 40
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 1             5             10             15
Gly Cys

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    <220>
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    <400> 41
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 <220>
 <223> artificial secretion domain

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 Arg Arg Gly Cys
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 <210> 43
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 <212> PRT
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 <220>
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 <400> 43
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 Arg Arg Arg Gly Cys
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 <210> 44
 <211> 22
 <212> PRT
 <213> Artificial Sequence

 <220>
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 <400> 44
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 <210> 45
 <211> 22
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Kaposi's fibroblast growth factor (FGF) signal
 peptide sequence - full length secretion domain

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 Leu Ala Leu Leu Ala Pro
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 <210> 46
 <211> 10769
 <212> DNA
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<220>
 <223> R011 bi-cistronic plasmid autogene construct (R023
 with downstream Photinus pyralis luciferase
 reporter gene cassette from L059)

<220>
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 <223> n = g, a, c or t

<400> 46

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<210> 48

<211> 5313

<212> DNA

<213> Artificial Sequence

<220>

<223> L059 luciferase reporter gene construct plasmid,
pTRI-Amp (Ambion) backbone with EMCV internal
ribosome entry site (IRES), Photinus pyralis
luciferase and beta-globin poly-adenylation site
derived from EMC-Luc

<400> 48

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<210> 49

<211> 7940

<212> DNA

<213> Artificial Sequence

<220>

<223> R023 basic autogene cassette plasmid construct,
driven by CMV promoter and intron, derived from
plasmid T7-G1, containing T7 RNAP gene with
nuclear localization sequence removed, driven by
T7, T3 and SP6 promoters (PTRI)

<220>

<221> modified_base

<222> (1444)...(1447)

<223> n = g, a, c or t

<400> 49

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<220>

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